CLAIMS

What is claimed is:

5   1. A job scheduling device for scheduling jobs
to run on at least one node of at least one computing
platform, comprising:

an enterprise scheduling agent installed on each
node and configured to launch execution of jobs

10   submitted to the agent;

a presentation layer configured to accept and
validate parameters identifying at least one job to
be submitted for execution on at least one of said
nodes; and

15   a job scheduler configured to allocate at least
one job based on said parameters and submit the
allocated jobs to at least one enterprise scheduling
agent.

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2. The job scheduling device according to Claim
1, further comprising:

a job data management device configured to
maintain job data and job histories of jobs submitted

25   to each enterprise scheduling agent.

3.   The job scheduling device according to Claim 2, wherein said job histories include information received from each enterprise scheduling agent regarding status of the jobs submitted.

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4.   The job scheduling device according to Claim 2, wherein said job data management device is utilized by said job scheduler to set parameters in

10   jobs to be submitted to said enterprise scheduling agent.

5.   The job scheduling device according to Claim

15   1, further comprising:

a job history repository that saves both jobs and job histories of jobs submitted to each enterprise scheduling agent;

wherein each enterprise scheduling agent

20   comprises,

an agent communicator configured to send and receive messages between said job scheduler and the enterprise scheduling agent,

a job manager configured to setup, launch, run,

25   and manage jobs submitted to the enterprise scheduling agent,

a data manager configured to update and delete

data from said job history repository, and

a low level API configured handle internal functions of said enterprise scheduling agent (LES Agent), file management, and message handling

5   functions.

6. The job scheduling device according to Claim 5, further comprising:

10   an enterprise communicator configured to construct and communicate messages between said job scheduler and each enterprise scheduling agent; and

a job data management device configured to maintain job histories of jobs submitted to each

15   enterprise scheduling agent;

wherein said data manager updates said job history via enterprise communicator messages sent from the enterprise scheduler to said job data management device.

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7. The job scheduling device according to Claim 1, further comprising:

a command line device configured to accept commands regarding administration of jobs submitted

25   to the enterprise scheduling agents; and

a job administration device configured to communicate said command line to at least one of said

enterprise scheduling agents for execution.

8. The job scheduling device according to Claim 7, wherein:

said commands accepted by said command line device include at least one of delete a job and all runs of the job, cancel a job's run, list all jobs, list all jobs by at least one of product code, status, and node, and rerun a job immediately.

9. The job scheduling device according to Claim 8, wherein:

said commands accepted by said command line device include context variables; and

said enterprise scheduling agent converts said context variables according to a current job and job parameters, and executes said commands.

10. The job scheduling device according to Claim 1, further comprising:

a point product device configured to provide a communication link between said enterprise scheduling agent and at least one product submitting jobs to said job scheduling device;

wherein said point product device communicates job status, job logfile, setup, cancel, job parameter

functions, and requests between each enterprise scheduling agent and said at least one product.

11. The job scheduling device according to Claim 10, further comprising:

a job administration device configured to accept command line inputs and communicate said command line inputs to at least one enterprise scheduling agent;

a job data management device configured to maintain job histories of jobs submitted to each enterprise scheduling agent; and

an enterprise communicator configured to send messages between at least one of said job scheduler, point product device, job administration device, and job data management device and each of said enterprise scheduling agents.

12. The job scheduling device according to Claim 1, further comprising:

an enterprise communicator configured to send messages between said job scheduler and each of said enterprise scheduling agents.

13. The job scheduling device according to Claim 12, wherein:

each enterprise scheduling agent is registered at a specific node address that identifies each

enterprise scheduling agent with a unique datagroup; and

said enterprise communicator encodes each message with at least one destination corresponding

5   to a datagroup to direct each message to at least one enterprise scheduling agent.

14.   The job scheduling device according to

10   Claim 1, further comprising:

a local job repository installed on each of said nodes;

wherein:

each local job repository maintains job and job

15   history information on each job submitted to the node where the local job repository is installed;

each local job repository is updated by the enterprise scheduling agent installed on the node where the local job repository is installed; and

20   said job information includes job parameters needed to execute each job.

15.   The job scheduling device according to

25   Claim 14, further comprising:

a job data management device configured to maintain job histories of jobs submitted to each

enterprise scheduling agent; and

a synchronizing device configured to synchronize each local job repository with the job histories maintained by said job data management device.

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16. The job scheduling device according to Claim 1, further comprising:

a progress monitor configured to monitor and

10 display execution of at least one of said jobs;

wherein:

said progress monitor provides a visual display of,

an identification of said job and a current

15 phase of said job,

a percentage complete of said job, and

a percentage complete of said current phase.

20 17. The job scheduling device according to Claim 1, further comprising:

an autologin device configured to accept login parameters from a user submitting a job;

wherein said login parameters are utilized by an

25 enterprise scheduling agent to launch and execute the job submitted.

18. The job scheduling device according to Claim 1, further comprising:

a notification scripting device configured to execute a notification script having instructions for

5　notifying a user of status of a submitted job;

wherein said notification scripting device includes facilities for creating, editing, and selecting a notification script for a specific job.

10　19. The job scheduling device according to Claim 1, wherein:

said presentation layer includes,

a GUI interface that accepts user inputs for scheduling and specifying a job to be submitted;

15　wherein said GUI interface includes facilities for selection and creation of a scheduling calendar, selection of a start date and time, selection of recurring job run intervals, and selection of an immediate job run.

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20. The job scheduling device according to Claim 1, further comprising:

a resource management device configured to

25　enable a user to locate and view jobs and job runs.

21. The job scheduling device according to

Claim 20, wherein:

said resource management device includes an RM GUI for defining an object representing a job, having,

a general properties page having input fields for a label identifying the job, and a description of the job,

a description properties page having a selection field for identifying an icon for representing the job, and

a repository page having a selection field for identifying a time zone for display of job times.

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22. The job scheduling device according to Claim 21, wherein:

objects defined by said resource management device comprise,

20   a hierarchy of folders including at least one of an all jobs folder, a jobs by group folder, a jobs by node folder, a jobs by product folder, a jobs by type folder, and a jobs by user folder.

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23. The job scheduling device according to Claim 22, wherein said all jobs folder includes

folders, including,

an all jobs any status folder listing jobs regardless of status and associated job history of each job,

5   an all runs by status folder listing jobs according to status, including completed runs, failed runs, not started runs, preempted runs, running runs, and stopped runs,

a held jobs folder listing jobs that are held 10   and can be scheduled for a later time, and

a scheduled jobs folder listing jobs that are scheduled to run.

15   24.   The job scheduling device according to Claim 1, wherein:

said presentation layer includes,

a strategy scheduling window configured to allow a user to view, create, modify, and delete schedules 20   for a strategy.

25.   A method of scheduling jobs across multiple networked computing platforms, comprising the steps 25   of:

determining at least one job based on job parameters for at least one job to be scheduled;

sending said at least one job to at least one

scheduling agent maintained on a selected nodes of

said computer platforms; and

executing each job on the selected node under

5   management of said scheduling agent.

26.   The method according to Claim 25, further

comprising the steps of:

monitoring progress of the executing job; and

10   displaying said progress on a progress monitor.

27.   The method according to Claim 25, further

comprising the step of recording each job and a

history of each job in a job history repository.

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28.   The method according to Claim 27, further

comprising the step of:

utilizing a job data management device for,

retrieving status messages regarding each job

20   sent from a scheduling agent of a selected node of

said job, and

updating said job history repository based on

said status messages.

25   29.   The method according to Claim 28, further

comprising the step of:

maintaining a local job repositories,

respectively on each of said nodes, each containing job and job history information for each job submitted to the respective node.

5   30.   The method according to Claim 29, further comprising the step of:

synchronizing said job history repository with each local job repository.

10   31.   The method according to Claim 25, wherein said step of determining comprises the steps of:

retrieving said job parameters from one of a product and a user interface that collects said job parameters;

15   validating said job parameters; and

allocating a job based on said job parameters.

32.   The method according to Claim 25, wherein said step of sending comprises the steps of:

20   packaging said job parameters in a PEC communication format; and

transmitting the packaged job parameters from a computing platform where said job parameters are determined to said scheduling agent maintain on the

25   selected node.

33.   The method according to Claim 25, wherein

said step of executing comprises the steps of:

setting up the selected node to run an application program identified by said job parameters;

5   executing said application program on the selected node; and

monitoring progress of said application being executed.

10   34.   The method according to Claim 25, further comprising the steps of:

accepting a command line for administration of jobs submitted to said enterprise scheduling agents; and

15   communicating said command line to at least one of said enterprise scheduling agents for execution.

35.   The method according to Claim 34, further
20   comprising the steps of:

substituting context variables in said command line with data based on said context variable and the job to be administered; and

executing the command line.

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36.   The method according to Claim 25, further comprising the step of:

communicating data, including at least one of
job status, job logfile, setup, cancel, job parameter
functions, and requests for said data between a
product and each enterprise scheduling agent.

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37. The method according to Claim 25, further
comprising the steps of:

registering each enterprise scheduling agent at
a node address that identifies the registered

10 enterprise scheduling agent with a unique datagroup;
communicating jobs and job administration
commands and requests with each enterprise scheduling
agent via messages; and
encoding each message sent to a recipient

15 enterprise scheduling agent with at least one
destination corresponding to a datagroup that directs
said message to the recipient enterprise scheduling
agent.

20 38. The method according to Claim 25, further
comprising the steps of:
retrieving autologin parameters from a user
scheduling an autologin job; and
launching execution of said job utilizing said

25 autologin parameters.

39. The method according to Claim 38, further

comprising the steps of:

retrieving a notification script for a job being submitted; and

executing the notification script on at least

5   one of completion of said job and at a requested

status point.

40.   The method according to Claim 25, further

comprising the steps of:

10   accepting a scheduling calendar identifying at

least on of execution times and intervals for at

least one of said jobs; and

executing said jobs on selected nodes at the

times and intervals identified in the calendar.

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41.   The method according to Claim 25, further

comprising the steps of:

providing a description of at least one of said

jobs, including a written description, a label, and

20   an icon selected to represent said job; and

identifying a time zone for display of job

times.

42.   The method according to Claim 25, further

25   comprising the steps of:

placing information about job times and status

in an object containing folders, each folder

identifying a categorization of jobs contained

therein, including, an all jobs folder, a jobs by

group folder, a jobs by node folder, a jobs by

product folder, a jobs by type folder, and a jobs by

5   user folder.

43.   The method according to Claim 42, further

comprising the step of:

organizing said all jobs folder to maintain

10   additional folders, including, at least one of,

an all jobs any status folder listing jobs

regardless of status and associated job history of

each job,

an all runs by status folder listing jobs

15   according to status, including completed runs, failed

runs, not started runs, preempted runs, running runs,

and stopped runs,

a held jobs folder listing jobs that are held

and can be scheduled for a later time, and

20   a scheduled jobs folder listing jobs that are

scheduled to run.

44.   The method according to Claim 25, further

comprising the steps of providing a strategy

25   scheduling window that allows a user to view, create,

modify, and delete schedules for a strategy.

45. A computer readable media, having instructions stored thereon that, when loaded into a computer, cause the computer to perform the steps of:

determining at least one job based on job

5 parameters for at least one job to be scheduled;

sending said at least one job to at least one scheduling agent maintained on a selected nodes of said computer platforms; and

executing each job on the selected node under

10 management of said scheduling agent.

46. A job scheduling device for scheduling jobs to run on at least one node of at least one computing platform, comprising:

15 enterprise scheduling means installed on each node and configured to launch execution of jobs submitted to the enterprise scheduling means;

presentation means configured to accept and validate parameters identifying at least one job to

20 be submitted for execution on at least one of said nodes; and

job scheduler means configured to allocate at least one job based on said parameters and submit the allocated jobs to at least one enterprise scheduling

25 means.